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Alberta

DEPARTMENT OF HOUSING

Innovative Housing Grants Program

THE DEVELOPMENT OF A MOVEABLE WINDOW INSULATING CURTAIN

By Michael Kerfoot and Bernie Lawrence of Sunergy Systems Ltd.

Introduction

In today's super insulated houses heat loss through windows can represent about one-third of the total heat loss. Significant energy savings can be achieved by closing off the window during the night with a movable insulating curtain.

Research

The report discusses the existing window insulating systems, develops criteria for a window insulating system, researches a wide variety of fabrics and other materials for movable insulating curtains and develops a method to measure the R values of a large number of materials for insulating curtains. Based on their research, the authors designed and developed a movable insulating curtain called "Sunseal".

Movable Insulating Curtain

The curtain consists of two layers of ARN (aluminized reflective nylon) fabric on either two-or-three-inch diameter rollers

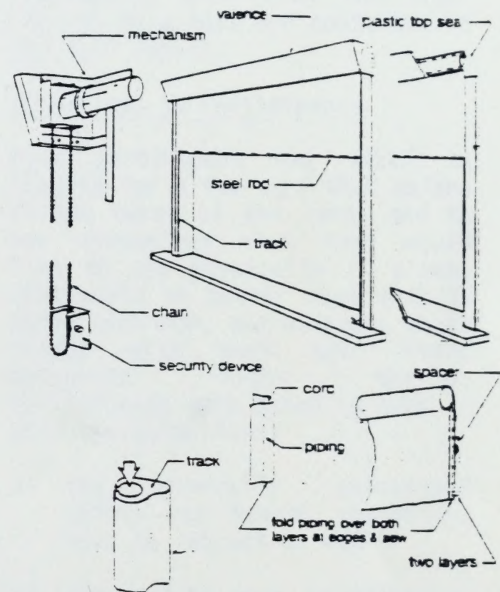


Figure 1. A Movable Insulating Curtain

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with an air space between the two layers. It has a draped polyethene top seal and a one quarter inch diameter metal rod to weigh the curtain down when fully extended (which also provides a bottom seal).

Edge seals are achieved by a cord sewn into the two edges of the blind which slide in a custom extruded slotted tubular PVC track of one-half inch width. The curtain is controlled manually by means of continuous loop bead chain which can

be secured at any point, fixing the curtain at the desired height. For those preferring automatic operation, a tubular motor is available with a thermostat or timer control.

Conclusion

The movable insulating curtain can reduce heat loss through windows by more than 50 per cent when compared to standard double glazing.

Insulating curtain kits containing materials and hardware to fabricate and install the complete curtain are being sold by Sunergy Systems Ltd.

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Innovative Housing Grants Program

THE INNOVATIVE LAND AND HOUSING DESIGN COMPETITION

Sponsored by The Calgary Housing Commission
Carma Developers Ltd.

Competition Beginnings

The competition was initiated as a challenge to the architectural, planning and engineering professions to create new departures in the areas of land use planning and engineering, land development and housing design. The competition form was chosen as a means to promote design opportunities that would be readily acceptable to the public and to be the forerunner of a demonstration community project. The competition has the potential to result in recommendations for changes to planning policy, and/or building and subdivision standards.

The Site

The land is approximately 125 acres in the Edgemont area of Calgary. Existing development adjoins the site. The parcel offers the advantage of overlooking a significant coulee with the potential of natural recreation.

Carma Developers supplied the land for the competition and agreed to act as the administrator to disseminate the appropriate

maps, contours and other information describing the site. General base maps are contained in the full report.

Guidelines to Participants

Each participant was asked to imagine for a few days that he/she is the owner of the land, and to ask themselves what they would like to see physically in place, what would be better than what is being done now, and contrast those things with what the future occupants might desire. Participants were asked to keep in mind two guidelines:

- a) the generally understood safety and health standards, must be respected, and
- b) the designs must be saleable. Reality dictates that the end product must be something that the public desires. You should try to provide the shelter occupant with the impression that he has obtained more for less cost. You must justify why you think

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people will want what you propose if it is a far step from what is currently being built. Please bear in mind that the market demand could change during the several years the land is being developed.

As described in the full report, there were eight guidelines developed and offered to the participants outlining how they were to address such issues as housing or, housing density, marketability, safety, mix of land uses, housing demand and the law.

Awards

There are four major award categories, namely:

1. the most significant proposal, combining land use and development and housing form, for a total prize amount of \$7,000.00;
2. the most significant proposal with respect to land use and development for a total prize amount of \$5,000.00;
3. the most significant proposal with respect to the three dimensional housing form for a total prize amount of \$4,000.00;
4. for those who have chosen not to submit an extensive proposal, there will be twelve merit awards focused on a variety of topics awarded according to their practicality and ease of implementation.

The Winners

The winners of this competition are as follows:

1. Jack Long and the New Street Group, Calgary, Alberta
First Prize: Land Use and Development
Second Prize: Housing Form
2. IBI Group, Edmonton, Alberta
Second Prize: Land Use and Development
3. Barry Pendergast Architect Ltd., Calgary, Alberta
First Prize: Housing Form
4. Tritex Engineering Ltd., Calgary, Alberta
First Prize: Technical
5. Stanley Associates Engineering
Second Prize: Technical
6. Merit Awards:
 - a) John Bousfield Associates Ltd./D.R. Misbur, Architect - Toronto, Ontario
 - b) Hok Lin Lung - Kingston, Ontario
 - c) The Sturgess Partnership - Calgary, Alberta
7. Student Awards:
 - a) John Alley, University of Calgary
 - b) John Asimakos, Nova Scotia College of Art & Design
 - c) Beth MacDonald, Nova Scotia College of Art & Design
 - d) Janice Snair, Nova Scotia College of Art & Design

Illustrative summaries of each of the winning projects are included in the full report.

